IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Application of:

Jeffrey A. Tilton

Serial No.: 10/099,659 Group Art Unit: 2971

Filed: March 15, 2002 Examiner: J. Boyd

For: INSULATING MATERIAL

I hereby certify that this correspondence is being transmitted via first class mail to Mail Stop Appeal Brief - Patents, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on:

10/16/06	JAN HOSTASA	Jan Hostasa
Date of Deposit	**Name of Depositor**	**Signature of Depositor**

APPEAL BRIEF

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Appeal is taken from the rejection of pending claims 1, 5-7 and 9-28 made in the Office Action of May 18, 2006. No claim has been allowed. A timely Notice of Appeal was filed on August 17, 2006.

TABLE OF CONTENTS

I. REAL PARTY IN INTEREST

The inventor assigned 100% of his interest in the present invention as embodied in U.S. Patent Application Serial No. 10/099,659 to Owens-Corning Fiberglas Technology, Inc. ("Appellant" or "Owens Corning"), an Illinois corporation having a place of business at 7734 West 59th Street, Summit, Illinois 60501.

II. <u>RELATED APPEALS AND INTERFERENCES</u>

Appellant knows of no other appeals or interferences that will directly affect, or be directly affected by, or have a bearing on the Board's decision in this appeal.

III. STATUS OF THE CLAIMS

Claims 1, 5-7 and 9-28 remain pending in the application and are the subject of this appeal. All pending claims are rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,851,355 to Goettmann ("Goettmann").

IV. STATUS OF AMENDMENTS

The form of the claims for purposes of this appeal is as presented in the response mailed on February 28, 2006. For the convenience of the Board, a copy of the pending claims appears in the Claims Appendix appended hereto. Appellant concurrently submits an Amendment under 37 CFR 1.116 to correct an inadvertent transcription error in claim 25 (namely, to indicate that the lower end of the range of the recited acoustical absorption coefficient is 0.50, rather than 0), which change is not reflected in the attached version of the claims.

V. SUMMARY OF CLAIMED SUBJECT MATTER

Claim 1 of the present application reads on an insulating material, an example of which is shown as layer 12 in Figure 1. According to the requirements of the claim, the material comprises in weight percent about 20-60% low melt bicomponent fiber, 10-40% high melt bicomponent fiber and 20-60% staple fiber (page 6, lines 15-17). The high melt bicomponent fiber has a melt flow temperature above that of the low melt bicomponent fiber (p. 7, lines 24-26 and p. 8, lines 12-15). The average fiber diameter of the low melt bicomponent fiber, high melt bicomponent fiber and staple fiber is between 18-22 microns (p. 6, lines 17-19). Furthermore, the low melt and high melt bicomponent fibers are a concentric sheath/core CoPET/PET (p. 6, lines 21-25).

Claim 5 further requires that the insulating material of claim 1 has a density of between about 1.0-10.0 pcf and a flexural strength of between about 40-1200 psi (p. 6, lines 19-20). Claim 6 depends from claim 5 and requires that the claimed material have an acoustical absorption coefficients for 500 Hertz at 2 pcf density of 0.17-0.24 (p. 8, lines 19-21). Claim 7 adds that the insulating material has a thermal conductivity value of between about 0.20 and 0.30 at 2 pcf density (p. 8, lines 21-23).

As recited in claim 9, the staple fibers of the material are selected from a group of materials consisting of polyester fibers, polyethylene fibers, polypropylene fibers, nylon fibers, rayon fibers, glass fibers, natural fibers and mixtures thereof (p. 9, lines 1-4). Claim 10 requires that the material of claim 1 have acoustical absorption coefficients for 500 Hertz at 2 pcf density of 0.17-0.24 (p. 8, lines 19-21), and claim 11 adds that the material has a thermal conductivity value of between about 0.20 and 0.30 at 2 pcf density (p. 8, lines 19-21).

Claim 12 depends from claim 11 and requires that the staple fibers forming part of the material selected from a group of materials consisting of polyester fibers, polyethylene fibers, polypropylene fibers, nylon fibers, rayon fibers, glass fibers, natural fibers and mixtures thereof (p. 9, lines 1-4).

Claim 13 refers back to claim 1 and requires that the staple fibers are selected from a group of materials consisting of polyester fibers, polyethylene fibers, polypropylene fibers, nylon fibers, rayon fibers, glass fibers, natural fibers and mixtures thereof (p. 9, lines 1-4). Claim 14 then adds the requirement to claim 13 that the low melt bicomponent fibers are selected from a group of materials consisting of copolyester/polyethylene terephthalate, poly 1,4 cyclohexanedimethyl terephthalate/polyethylene terephthalate, poly 1,4 cyclohexanedimethyl terephthalate/polypropylene, glycol-modified polyethylene terephthalate/polyethylene terephthalate, propylene/polyethylene terephthalate, nylon 6/nylon 66, polyethylene/glass, polymer/natural fibers and mixtures thereof that yield differential melt flow temperatures (p. 7, lines 14-22). Claim 16 depends from claim 14 and requires that the low melt bicomponent fibers have a melt flow temperature of about 100 to about 130°C (p. 7, lines 24-26).

Dependent claim 17 refers back to claim 13 and requires that the high melt bicomponent fibers are selected from a group of materials consisting of copolyester/polyethylene terephthalate, poly 1,4 cyclohexanedimethyl terephthalate/polyethylene terephthalate, poly 1,4 cyclohexanedimethyl terephthalate/polypropylene, glycol-modified polyethylene terephthalate/polyethylene terephthalate, propylene/polyethylene terephthalate, nylon 6/nylon 66, and mixtures thereof that yield differential melt flow temperatures (p. 8, lines 1-8). Claim 19 requires

that these high melt bicomponent fibers have a melt flow temperature of about 170 to about 200°C (p. 8, lines 10-12), and claim 20 requires that crystalline/semicrystalline bicomponent fibers having a melt flow temperature of about 150 to about 180°C are substituted in part or whole for the high melt bicomponent fiber (p. 8, lines 12-15).

Dependent claims 21-23 refer back to claim 5 are require that the insulating material recited therein has the following acoustical absorption coefficients as follows: (1) 1000 Hz @ 2 pcf density: 0.29-0.63 (Claim 21); (2) 2000 Hz @ 2 pcf density: 0.50-0.94 (Claim 22); and (3) 4000 Hz @ 2 pcf density: 0.71-0.99 (Claim 23) (p. 8, lines 19-21). Dependent claims 24-26 recite acoustical absorption coefficients for the material of claim 1 (p. 8, lines 19-21).

Independent claim 27 recites an insulating material comprising in weight percent about 20-60% low melt bicomponent fiber, 10-40% high melt bicomponent fiber and 20-60% staple fibers (page 6, lines 15-17). The average fiber diameter of the low melt bicomponent fiber, the high melt bicomponent fiber and the staple fiber is between 18-30 microns (page 6, lines 17-19). Furthermore, the material has a density of between about 1.0 to about 10.0 pcf (p. 6, lines 19-20).

Dependent claim 28 requires that the low melt bicomponent fibers have a melt flow temperature of about 100 to about 130°C and the high melt bicomponent fibers have a melt flow temperature of about 170 to about 200°C (p. 7, lines 24-26 and p. 8, lines 10-12). Claim 15 depends from claim 27 and adds the requirement of bicomponent fibers in a configuration selected from a group consisting of sheath-core, side-by-side, segmented pie and mixtures thereof (p. 7, lines 22-24). Furthermore, claim 18 depends from claim 27 and requires that high melt bicomponent fibers

in a configuration selected from a group consisting of sheath-core, side-by-side, splitable segmented pie and mixtures thereof (p. 8, lines 8-10).

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

The Board must determine whether the inventions of claims 1, 5-7 and 9-28 are obvious over Goettmann.

VII. <u>ARGUMENT</u>

Appellant presents this appeal to the Board because it is clear that the examiner fails to identify a disclosure or teaching of the claimed inventions **<u>as a whole</u>** in the prior art, and otherwise improperly uses the present application as a guide in order to arrive at the claimed inventions, when otherwise no motivation to make the proposed combination exists. In concluding the claimed inventions are indeed novel, yet obvious, the examiner in the final Office Action relies primarily on Goettmann. However, several significant points of distinction between Appellant's inventions and the teachings of Goettmann are disregarded in making the rejections.

First of all, Goettmann explicitly teaches a non-woven web incorporating only 1 to 10% by weight of the second thermoplastic binder material (see particularly col. 3, lines 65-67) allegedly corresponding to Appellant's claimed low melt bicomponent fibers, a point that the examiner does not contest. This is in stark and total contrast to the inventions of independent claims 1 and 27, which require an insulating material incorporating from 20 to 60 weight percent low melt bicomponent fiber. Not only is the weight percentage range for the second thermoplastic binder material in Goettmann far outside the claimed range deemed necessary by the Appellant to achieve the desired result in the present invention, but the present invention requires anywhere from 2 to 6 times as much low melt bicomponent fiber as taught in Goettmann.

In response to Appellant pointing out this significant distinction, the examiner made the obviousness rejection of claims 1 and 27 final, positing that "it would have been obvious to optimize the amount of low melt bicomponent fibers." Lacking, however, is any reason or **<u>substantial,</u>**

objective evidence as to why such is the case. According to the examiner, "Goettmann provides support to adjust various parameters such as the amount of bicomponent fibers. . . ." The *non sequitur* is that this contention alone does not establish that it would be obvious to "optimize the amount of low melt bicomponent fibers" as contended, when there is otherwise no cited motivation or suggestion to do so. The same is true of the statement in Goettmann that the "range and blend of bicomponent fibers may also be varied," which in no way suggests using 2 to 6 times as much low melt bicomponent fibers, as claimed (especially when the reference cited actually teaches away from such a marked increase in view of the desire for a specific porosity). The examiner seems to suggest that merely because the change might be feasible, a proper motivation is provided. However, as succinctly observed by the Court of Appeal for the Federal Circuit, "[t]rade-offs often concern what is feasible, not what is, on balance, desirable. ***Motivation to combine requires the latter.***" *Winner Int'l Royalty Corp. v. Wang,* 202 F.3d 1340 53 USPQ2d 1580 (Fed. Cir. 2000) ((emphasis added))

In the final Office Action, the examiner without citing any objective evidence whatsoever also contends that at least doubling the percentage of low melt bicomponent fibers in the manner proposed "does not imply a change in porosity only a change in composition of the web." This statement flies in the face of the express teachings of Goettmann that porosity is crucial to the invention disclosed therein (see, e.g., col. 2, lines 66-67, "An important feature of a membrane support substrate is sheet porosity . . ."), and that achieving the desired porosity of 5-10 cfm necessary for a reverse osmosis filter involves using 1-10% by weight of low melt bicomponent fibers. Using the examiner's logic, a composite

material comprised of 99% low melt bicomponent fibers and 1% binder fibers would necessarily have the same porosity as the material having 1% of the low melt bicomponent fibers and 99% of binder fibers. This wayward conclusion is supported nowhere in the record, and in fact is contraindicated by Goettmann itself! (see, e.g., col. 3, lines 36-38, "as the quantity of polyester increases . . . , . . . porosity increases."). The examiner's argument is mere speculation, and cannot qualify as the requisite substantial objective evidence necessary to serve as a solid foundation for a proper obviousness rejection.

Secondly, and perhaps more importantly, the low melt bicomponent, high melt bicomponent and staple fibers according to the express terms of claim 1 all have an **average** fiber diameter of between 18-22 microns. As set forth in independent claim 27, these fibers all have an average fiber diameter of between 18-30 microns. In accordance with the limitations of either claim 1 or 27, the **minimum** average fiber diameter is thus 18 microns.

In making the rejections, the examiner completely ignores the requirement in claims 1 and 27 that the **average** fiber diameter of the low melt bicomponent fibers, high melt bicomponent fibers, and staple fibers is between 18-22 microns. Even if one of the fibers taught in the reference falls within the claimed range (which is not the case here), it does not follow that the "average" diameters of all three types of fibers would also fall within that range. The examiner cites absolutely no evidence regarding the diameter of the low melt and high melt bicomponent fibers in Goettmann, which makes it impossible to support the contention that the "average fiber diameter" would fall within the claimed range.

Indeed, a review of product literature available online for the

Kuraray EP-101 fibers and N-720H fibers mentioned in Goettmann suggests that the diameters of these fibers are substantially less than Appellant's claimed range (*see* **<u>Exhibit A</u>** attached hereto as part of the Evidence Appendix). Of course, this means that the average fiber diameter of the fibers in the only embodiment in Goettmann where the diameters can possibly be estimated cannot be greater than 18, as required in Appellant's claims!

The examiner also relies on *In re Boesch*, 617 F.2d 272, 205 USPQ2d 215 (CCPA 1980), for the proposition that various limitations are "result effective variables." As the Board is well aware, the decision of *In re Boesch* stands for the concept that discovering an optimum value of a result effective variable involves only routine skill in the art. However, the concept of "optimization" defined in *Boesch* relates strictly to the situation where the prior art actually teaches a constituent range <u>overlapping</u> that claimed in the patent application in issue. *See In re Boesch, supra* at 617 F.2d at 274 ("Each of the ranges of constituents in appellants' claimed alloys **<u>overlaps</u>** ranges disclosed [in the prior art].") (emphasis added). That is absolutely, totally and completely different from the present situation wherein the cited prior art explicitly teaches a range **<u>outside</u>** the one **<u>required</u>** in claims 1 and 27, a point of fact with which the present examiner **<u>agrees</u>**. Thus, *In re Boesch* is factually distinguishable and not controlling, which means that it certainly cannot support the rejections.

In support of the rejections of claims 1 and 27, the examiner also posits that "it is known in the art that Kuraray EP-101 fibers and N-720H fibers . . . comprise polyethylene terepthalate as the polyester component." However, no **<u>objective evidence</u>** or reference was initially provided in support of this contention. Upon being challenged to provide evidence in

support of the rejections, the examiner in the final Office Action cites to U.S. Patent No. 6,977,111 to Yamaguchi et al., which allegedly supports the position that "it is known in the art that Kuraray EP-101 fibers and N-720H fibers . . . comprise polyethylene terephthalate as the polyester component." However, the examiner's efforts are futile, since the Yamaguchi et al. patent still in no way establishes that the fibers disclosed in Goettmann meet the claimed range in terms of average diameter, which is the entire reason this reference is cited. Accordingly, citation to Yamaguchi et al. does not supply the missing teachings necessary to render the claimed inventions obvious.

As for the reference to EP-101 fibers in the '111 Yamaguchi et al. patent, it is also noted that it is completely silent as to whether these are bicomponent fibers at all. Indeed, the evidence cited by the Appellant tends to suggest that the EP-101 fibers are **not** bi-component fibers. The examiner cites to Table 2 of Yamaguchi et al. as allegedly showing that "the non-stretched EP-101 fibers are PET," but this table actually does not expressly mention EP-101 fibers, let alone bi-component fibers having the claimed structure. Since nothing in Yamaguchi et al. establishes that EP-101 fibers are even bi-component fibers, it is entirely unreasonable for the examiner to conclude that these apparently single component fibers are "concentric sheath/core CoPET/PET" as is contended. Consequently, the examiner's position is thus akin to the kind of "common knowledge" argument that has been squarely rejected by precedential decisions of the Federal Circuit. *See In re Lee*, 61 USPQ2d 1430 (Fed. Cir. 2002) (reversing an examiner's rejection based on "common knowledge" holding that "'[c]ommon knowledge and common sense,' . . . do not substitute for authority when the law requires authority."); *see also In re Zurko*, 258 F.3d

1379, 1385-86 (Fed. Cir. 2001) (holding that, with respect to core factual findings, "the Board must point to some concrete evidence in the record in support" of them, rather than relying on its assessment of what is "well recognized" or what a skilled artisan would be "well aware").

Appellant also further wishes to note that the examiner asserts in the Advisory Action of July 5, 2006 that "Applicant has not provided any evidence of unexpected results which would overcome the obviousness rejection." Respectfully, Appellant bears the burden of presenting evidence **only** if the examiner has established a *prima facie* case of obviousness. MPEP Section 2142 ("If the examiner does not produce a *prima facie* case, the applicant is under no obligation to submit evidence of nonobviousness."). This requires that the examiner *inter alia* prove that each and every limitation of the claim is taught or suggested in the prior art. *Id.* ("To establish a *prima facie* case of obviousness, . . . the prior art reference (or references when combined) must teach or suggest all the claim limitations."). Since nothing in the references cited by the examiner teach or suggest the claimed insulating material with 20-60% of low melt bicomponent fiber or the claimed minimum average fiber diameter of 18 microns, the examiner has not properly shifted the burden to the Appellant to submit evidence of unexpected results.

Turning to the dependent claims, the rejections of many of them based on obviousness grounds are equally flawed. For example, the examiner admits that the features of claims 5-7, 10-11, and 21-26 are not taught in Goettmann. Nevertheless, obviousness rejections are levied because "it is reasonable to presume . . . [that the claim features] is [*sic* are] inherent to Goettmann" (Office Action of November 28, 2005, page 5). The alleged support for this "presumption" is "the use of like materials . . .

which would result in the claimed property." *Id.* Thus, according to the examiner, "[t]he burden is on the Applicant to prove otherwise."

This fatal flaw in this logic is that Goettmann, by the examiner's own admission, does not disclose any insulating material with 20-60% weight percent low melt bicomponent fiber, or one in which the fibers have a minimum average fiber diameter of 18 microns. The stated basis for the examiner's presumption is thus entirely non-existent, and cannot shift the burden to the Appellant to "prove otherwise." Accordingly, the rejections of dependent claims 5-7, 10-11, and 21-26 cannot be sustained on appeal as being supported by the requisite objective evidence.

As for claim 20, the examiner admits that its requirements are not taught in Goettmann. Nevertheless, it is contended that this claim recites an obvious invention because "[i]t would have been obvious . . . to replace the high melt bicomponent fibers [of Goettmann] in part or in whole with crystalline/semi-crystalline bicomponent fibers since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of design choice." (Office Action of November 28, 2005, page 6).

In support of this argument, the examiner relies upon *In re Leshin*, 277 F.2d 197, 125 USPQ 416 (CCPA 1960). This dated case stands for the proposition that it would have been obvious to one of ordinary skill in the art to select known plastics to make containers known to be made of plastic based upon the intended use of the containers. *See Leshin*, 277 F.2d at 199, 125 USPQ at 417-18. In *Leshin* the suitability of each plastic for making a container for an intended use was apparent to those of ordinary skill in the art.

In the present case, for the substitution of crystalline/semi-crystalline bicomponent fibers to have been obvious, a skilled artisan would have had to consider these fibers suitable for use in the application of Goettmann. This differs from *Leshin* in that the record does not indicate that it was known in the art that crystalline/semi-crystalline bicomponent fibers have suitable properties for use in Goettman's nonwoven web. The examiner merely asserts that it would have been obvious to make the substitution "to increase the range of applications of the composite material" (Office Action of November 28, 2005, page 7). However, no objective evidence whatsoever supports the conclusion that such would result, or for that matter that anything would have motivated a skilled artisan to make the substitution for this reason and have a reasonable expectation of success. *See In re Vaeck*, 947 F.2d 488, 493, 20 USPQ2d 1438, 1442 (Fed. Cir. 1991); *In re O'Farrell*, 853 F.2d 894, 902, 7 USPQ2d 1673, 1680 (Fed. Cir. 1988). Accordingly, the rejection of dependent claim 20 is infirm.

As stated in *W.L. Gore & Associates, Inc. v. Garlock, Inc., supra*, "[t]o imbue one of ordinary skill in the art with knowledge of the invention [under consideration], when no prior art reference or references of record convey or suggest that knowledge, is to fall victim to the insidious effect of a hindsight syndrome wherein that which only the inventor taught is used against its teacher." That is precisely what has occurred here, since no substantial evidence in the record provides the requisite motivation or suggestion to make the claimed combination, or otherwise supports the obviousness of the claimed inventions. Thus, upon careful review and consideration it is believed the Board will agree and find the inventions of claims 1, 5-7, and 9-28 patentable over the cited prior art.

Respectfully submitted,

OWENS CORNING

By: Margaret S. Millikin

Margaret S. Millikin
Reg. No. 38,969

Owens Corning
2790 Columbus Road, Route 16
Granville, Ohio 43023-1200
(740) 321-5359

VIII. CLAIMS APPENDIX

The claims on Appeal read as follows:

1. (Previously Presented) An insulating material, comprising in weight percent about 20-60% low melt bicomponent fiber, 10-40% high melt bicomponent fiber and 20-60% staple fiber wherein said high melt bicomponent fiber has a melt flow temperature above that of said low melt bicomponent fiber, wherein the average fiber diameter of said low melt bicomponent fiber, said high melt bicomponent fiber and said staple fiber is between 18-22 microns and wherein said low melt and high melt bicomponent fibers are a concentric sheath/core CoPET/PET.

2.-4. (Canceled)

5. (Original) The material of claim 1, wherein said material has a density of between about 1.0-10.0 pcf and a flexural strength of between about 40-1200 psi.

6. (Previously presented) The material of claim 5, wherein said material has the acoustical absorption coefficients as follows:

freq (Hz) @	2 pcf density
500	0.17-0.24.

7. (Original) The material of claim 6, wherein said material has a thermal conductivity value of between about 0.20 and 0.30 at 2 pcf density.

8. (Canceled)

9. (Previously presented) The material of claim 1, wherein said staple fibers are selected from a group of materials consisting of polyester fibers, polyethylene fibers, polypropylene fibers, nylon fibers, rayon fibers, glass fibers, natural fibers and mixtures thereof.

10. (Original) The material of claim 1, wherein said material has the acoustical absorption coefficients as follows:

freq (Hz)	@ 2 pcf density
500	0.17-0.24.

11. (Original) The material of claim 10, wherein said material has a thermal conductivity value of between about 0.20 and 0.30 at 2 pcf density.

12. (Original) The material of claim 11, wherein said staple fibers are selected from a group of materials consisting of polyester fibers, polyethylene fibers, polypropylene fibers, nylon fibers, rayon fibers, glass fibers, natural fibers and mixtures thereof.

13. (Original) The material of claim 1, wherein said staple fibers are selected from a group of materials consisting of polyester fibers, polyethylene fibers, polypropylene fibers, nylon fibers, rayon fibers, glass fibers, natural fibers and mixtures thereof.

14. (Original) The material of claim 13, wherein said low melt bicomponent fibers are selected from a group of materials consisting of copolyester/polyethylene terephthalate, poly 1,4 cyclohexanedimethyl terephthalate/polyethylene terephthalate, poly 1,4 cyclohexanedimethyl

terephthalate/polypropylene, glycol-modified polyethylene terephthalate /polyethylene terephthalate, propylene/polyethylene terephthalate, nylon 6/nylon 66, polyethylene/glass, polymer/natural fibers and mixtures thereof that yield differential melt flow temperatures.

15. (Previously Presented) The material of claim 27, wherein said bicomponent fibers are in a configuration selected from a group consisting of sheath-core, side-by-side, segmented pie and mixtures thereof.

16. (Original) The material of claim 14, wherein said low melt bicomponent fibers have a melt flow temperature of about 100 to about 130°C.

17. (Original) The material of claim 13, wherein said high melt bicomponent fibers are selected from a group of materials consisting of copolyester/polyethylene terephthalate, poly 1,4 cyclohexanedimethyl terephthalate/polyethylene terephthalate, poly 1,4 cyclohexanedimethyl terephthalate/polypropylene, glycol-modified polyethylene terephthalate /polyethylene terephthalate, propylene/polyethylene terephthalate, nylon 6/nylon 66, and mixtures thereof that yield differential melt flow temperatures.

18. (Previously Presented) The material of claim 27, wherein said high melt bicomponent fibers are in a configuration selected from a group consisting of sheath-core, side-by-side, splitable segmented pie and mixtures thereof.

19. (Original) The material of claim 17, wherein said high melt bicomponent fibers have a melt flow temperature of about 170 to about 200°C.

20. (Previously Presented) The material of claim 17, wherein crystalline/semicrystalline bicomponent fibers having a melt flow temperature of about 150 to about 180°C are substituted in part or whole for said high melt bicomponent fiber.

21. (Previously presented) The material of claim 5, wherein said material has the acoustical absorption coefficients as follows:

freq (Hz)	@ 2 pcf density
1000	0.29-0.63.

22. (Previously presented) The material of claim 5, wherein said material has the acoustical absorption coefficients as follows:

freq (Hz)	@ 2 pcf density
2000	0.50-0.94.

23. (Previously presented) The material of claim 5, wherein said material has the acoustical absorption coefficients as follows:

freq (Hz)	@ 2 pcf density
4000	0.71-0.99.

24. (Previously presented) The material of claim 1, wherein said material has the acoustical absorption coefficients as follows:

freq (Hz) @ 2 pcf density

1000	0.29-0.63.

25. (Previously presented) The material of claim 1, wherein said material has the acoustical absorption coefficients as follows:

freq (Hz)	@ 2 pcf density
2000	0-0.94.

26. (Previously presented) The material of claim 1, wherein said material has the acoustical absorption coefficients as follows:

freq (Hz)	@ 2 pcf density
4000	0.71-0.99.

27. (Previously Presented) An insulating material, comprising in weight percent about 20-60% low melt bicomponent fiber, 10-40% high melt bicomponent fiber and 20-60% staple fiber wherein the average fiber diameter of said low melt bicomponent fiber, said high melt bicomponent fiber and said staple fiber is between 18-30 microns and said material has a density of between about 1.0 to about 10.0 pcf.

28. (Previously presented) The insulating material of claim 27, wherein said low melt bicomponent fibers have a melt flow temperature of about 100 to about 130°C and said high melt bicomponent fibers have a melt flow temperature of about 170 to about 200°C.

29. (Canceled)

IX. EVIDENCE APPENDIX

Appellant attaches for the convenience of the Board a copy of product literature available online for the Kuraray EP-101 fibers and N-720H fibers, which accompanied Appellant's February 28, 2006 response to a non-final Office Action.

X. RELATED PROCEEDINGS APPENDIX

None

ENGINEERED FIBERS TECHNOLOGY, LLC

KURARAY POLYESTER FIBERS For PAPERMAKING APPLICATIONS

General Characteristics

- **Available in a Range of Deniers and Types**
- **Good Moisture Resistance**
- **Good Oil Resistance**
- **Improves Paper Strength (Undrawn and Bicomponent)**
- **Thermal Binding (Bicomponent Sheath-Core)**

EXHIBIT A

KURARAY Polyester Fibers for Paper Making Applications

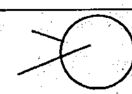
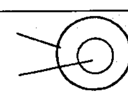
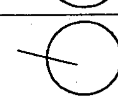
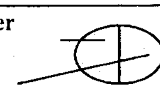
Subject Fibers

Type No.	Denier	Diameter (μ)	Cut length (mm)	Remarks
EP043	0.5	7	3,5	round cross-section, straight
EP053	0.8	9	5	round cross-section, straight
EP133	1.3	12	5,6,10,12,15	round cross-section, straight
EP203	1.9	14	5,10	round cross-section, straight
EPTC203	2.2	20	5,10	T shaped cross-section, crimp
EP303	2.8	17	5,10	round cross-section, straight

UDY (undrawn yarn) Binder Fibers

Type No.	Denier	Diameter (μ)	Cut length (mm)	Remarks
EP101	1.3	11	5	round cross-section, straight
EP201	2.2	15	5	round cross-section, straight

Bicomponent Fibers (Copolyester / Polyester)

Type No.	Denier	Diameter (μ)	Cut length (mm)	Remarks	Cross-Section
N720	2.0	14	5,10	binder type (110 °C)	co-polyester polyester 
N720H	2.1	15	5	binder type (130 °C)	ditto
N721	1.5	13	5	binder type (110 °C) S/C = 60/40	co-polyester polyester 
N700	5.1	23	5	Binder type (130 °C) homo fiber	co-polyester 
N790	2.5	16	5	high loft, crimp	co-polyester polyester 

All the above products are produced by Kuraray Tamashima plant, which is approved to ISO9002 quality certifications.